

### **Male urethral cancer**

May be primary or secondary: primary rare; secondary commonly a/w urothelial carcinoma of the bladder

Primary urethral carcinoma usually arises secondary to chronic irritation

Urethral stricture

Frequent STI/urethritis

#### **Presentation**

haematuria

urethral bleeding

persistent urethral stricture

urethrocutaneous fistula

#### **Histology**

80% squamous cell carcinoma (a/w HPV 16)

15% transitional cell carcinoma

5% other (adenoCa, melanoma etc.)

#### **Location**

60% bulbomembranous

30% penile

10% prostatic

Generally anterior urethral tumours do better than posterior urethral tumours

#### **Spread**

Anterior urethra – superficial and deep inguinal LNs (unlike penile carcinoma palpable LNs almost always metastatic)

Posterior urethra – pelvic LNs

### **Staging (UICC)**

Tx Tumour cannot be assessed

T0 No evidence of primary tumour

Tis CIS

Ta Papillary, polypoid or verrucoid tumour

T1 Tumour invades subepithelial connective tissue

T2 Tumour invades corpus spongiosum or prostate stroma

T3 Corpus cavernosum, vagina or bladder neck

T4 Other adjacent structures

Nx Nodal disease cannot be assessed

N0 No evidence of nodal disease

N1 Metastasis to a single LN < 2cm

N2 Metastasis to LN 2-5cm, or multiple LNs < 5cm

N3 Metastasis to LN > 5cm

Mx Distant mets cannot be assessed

M0 No distant mets

M1 Distant mets

Management

Depends on location and tumour stage:

## (i) Penile urethra

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|-------------------|--|
| Superficial (<T2) | Transurethral resection<br>Local excision and anastomosis<br>Local excision and perineal urostomy<br>Penis tip tumours may be treated by local excision and urethral repair  |
| Invasive (T2+)    | Distal half penile urethra    Partial penectomy<br>Prox. Half penile urethra    Total penectomy<br>2cm margin of excision required for both<br>Bilateral inguinal LND for palpable LNs<br>No reported benefit for prophylactic LND |

## (ii) Bulbomembranous urethra

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|-------------|---|
| Superficial | Uncommon<br>TUR/laser fulguration<br>Local excision and primary anastomosis   |
| Invasive    | Radical cystoprostatectomy, pelvic LND and total penectomy<br>Possible inclusion of pubic arch excision and adjacent urogenital diaphragm in continuity<br>Limited value for radical radiation therapy – reserved for unfit patients/those who refuse surgery |

## (iii) Urethral recurrence after orthotopic substitution

Urethrectomy with cuff of pouch. Excision of redundant pouch and use of chimney as ileal conduit is standard management. Occasionally mitrofanoff/monti to neobladder but a/w high revision rate and risk of pelvic recurrence

## Female urethral cancer

Primary urethral cancer only urological cancer more common in women than men

4x more common in females cf. males

Still rare however, accounting for ~ 1% female GU malignancies

Whites > blacks

Aetiology – chronic irritation (Urethral diverticula, stricture, leukoplakia)

Presentation

Bleeding

Palpable mass

Obstructive symptoms

Acute retention

Palpable lymphadenopathy (30% - higher in more advanced disease)

## Microscopy

Squamous cell carcinoma	50-70%	(HPV 16)
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Transitional cell carcinoma*	10-25%	
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Adenocarcinoma**	10-25%	
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\* transitional cell epithelium covers proximal third of urethra (distal two thirds stratified squamous epithelium)

\*\* slightly higher incidence in diverticula

Anterior two-thirds of urethra drain to superficial and deep inguinal nodes:  
posterior third to internal and external iliac nodes

## Diagnosis and staging

Cystoscopy, EUA and biopsy

MRI useful for loco-regional staging

Pelvic lymph node mets in 20%

Staging as for male urethral cancer

## Treatment and prognosis

As for males, distal tumours a/w better prognosis

Distal third of urethra may be excised without compromising continence

### (i) Distal tumours

Tend to be low stage

Local resection acceptable for exophytic tumours of distal third

Radical urethrectomy reported with bladder closure and diversion (iliovesicostomy or appendicovesicostomy) but local recurrence rates ~20%

Radical radiotherapy a/w similar five yr-survival to surgery (55-70Gy +/- brachytherapy) – 40% 5YS

No evidence for prophylactic LN dissection – bilateral LND only recommended in palpable disease.

### (ii) Proximal tumours

Tend to be higher stage

Poor 5YS with anterior exenteration alone (<20%)

Combination therapy recommended for optimal Rx

SCC = 5FU and MMC, radiation therapy and surgery

TCC = MVAC/GemCis, radiation therapy and surgery

Surgery

Wide vaginal excision+/- partial vulvectomy

Anterior exenteration and pelvic lymph node dissection

Pubic arch resection largely historical particularly if pre-operative radiotherapy considered